

# Ask the Experts

## COMPOSITE RESIN RESTORATION LONGEVITY

### Guest Experts

Trevor Burke, DDS, MSc, MDS, FDS (RCS Edin.)\*

Steve Lucarotti, PhD, MA (Oxon), MSc†

### Associate Editor

Edward J. Swift Jr., DMD, MS

**EDITOR'S COMMENT:** Recent issues of the *Journal* (Volume 18, Number 6 and Volume 19, Number 1) have featured "Ask the Experts" articles concerning the longevity of anterior and posterior composite resin restorations. We received some informative comments from Drs. Burke and Lucarotti in response to the article on anterior composites, and we will share those comments in lieu of our normal question-and-answer format.

**EXPERT COMMENTS:** We have established a database of the records of 80,000 different adult patients containing a total of 503,965 tooth restoration occasions from 1991 to 2002 from payment claims submitted by dentists practicing within the National Health Service General Dental Services arrangements in England and Wales.<sup>1</sup> We have commenced analysis of this using a modified Kaplan–Meier analysis.<sup>2</sup>

This modified Kaplan–Meier analysis was used to quantify survival times to next intervention, both overall and according to the characteristics of the restoration, patient, and dentist, and the geographical location of the surgery.

There were 95,805 restorations of composite resin of incisors and canines, of which 15,756 involved one incisal angle, 3,348 the incisal edge only, and 1,527 were complex. These resin composite restorations were found to have performance comparable only to the worst-performing amalgam restoration, a mesio-occlusal-distal.<sup>3</sup> Figure 1 demonstrates that 43% of these resin composite restorations had survived up to 10 years without reintervention (Figure 1). The presence of an incisal corner in the restoration (ie, Class IV) was found to significantly reduce survival ( $p < 0.0001$ ),<sup>3</sup> concurring with a conclusion in your article. These figures

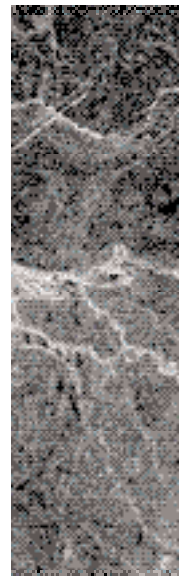
are consistent with those quoted by your experts, who stated that between 60 and 80% of Class III and V composite restorations were acceptable at 5 years.

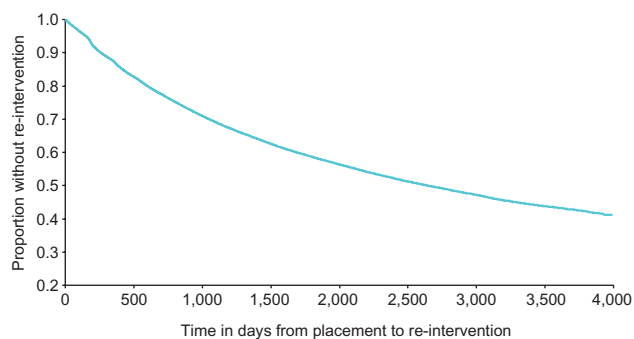
Readers may be interested to note Figure 2, which indicates that glass ionomer restorations, placed predominantly in Class V cavities in the United Kingdom, perform less well to reintervention than resin composite restorations.

### REFERENCES

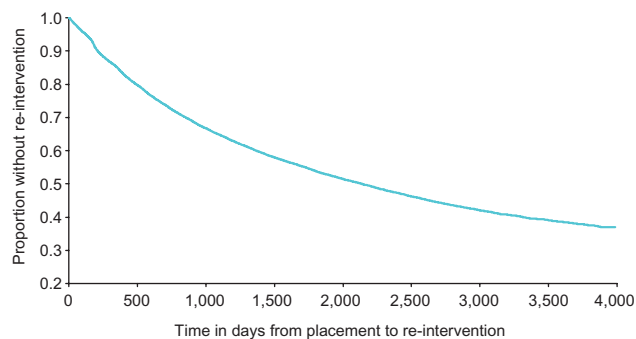
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2. Lucarotti PSK. The life expectancy of dental restorations placed within the general dental services in England and Wales. PhD Thesis, University of Birmingham, Birmingham, U.K. 2004.
3. Lucarotti PSK, Holder RL, Burke FJT. Outcome of direct restorations placed within the general dental services in England and Wales (Part 1): variation by type of restoration and re-intervention. *J Dent* 2005;33:805–15.

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*Figure 1. Period of survival until re-intervention for teeth restored with resin composite in the General Dental Services of England and Wales, 1991 to 2002.*



*Figure 2. Period of survival until re-intervention for teeth restored with glass ionomer in the General Dental Services of England and Wales, 1991 to 2002.*

Editor's Note: If you have a question on any aspect of esthetic dentistry, please direct it to the Associate Editor, Dr. Edward J. Swift Jr. We will forward questions to appropriate experts and print the answers in this regular feature.

#### Ask the Experts

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